

Video drives home impact of cumulative environmental toxic exposures on children's brain development

November 20 2014



SFU health scientist Bruce Lanphear is the co-producer of a startling new video that shows if we don't get a handle on keeping environmental toxic chemicals out of children's bodies the incidence of intellectual disability among them will dramatically increase. Lanphear, the recipient of a 2011 SFU prize in support of controversy, co-authored a study showing prenatal BPA exposure worsens girls' behaviour.

A new video co-produced by a Simon Fraser University researcher highlights how low-level exposures to prevalent environmental toxicants have adverse life-long effects on children's intellectual and behavioral development.

Bruce Lanphear, a well-published expert on children's environmental health, will unveil the video *Little Things Matter* at a first-of-its-kind conference at the University of Ottawa, Nov. 20-21.

"There is strong evidence that learning disabilities and lower IQ scores can be attributed to extremely low levels of exposure to toxic metals like lead and mercury, persistent toxins such as polychlorinated biphenyl (PCBs), and other toxins including organophosphate (OP) pesticides and compounds used as flame-retardants. These toxins are common in our daily environments," says Lanphear, an SFU health sciences professor.

With support from the SFU Community Engagement Fund, Lanphear has produced a short video showing the cumulative impact of ongoing [toxin](#) exposures. Using data available from the United States, *Little Things Matter* illustrates how widespread exposure to brain-damaging toxins, such as lead and flame-retardants, can increase the number of U.S. children who are challenged, from 6 million to more than 11 million.

"Children are exposed to many toxins and dozens of untested chemicals all the time. These chemicals can be biologically active at very low levels. While we do not have similar research data here in Canada, the pattern is likely similar. We can no longer ignore the impact toxins have on the developing brain and children's ability to learn," explains Lanphear.

Lanphear will unveil the video during his keynote presentation at the inaugural Prenatal Environmental Health Education (PEHE) Forum next

week.

"The PEHE Forum presents an opportune time for the screening of the video. This is the first time that prenatal health practitioners, researchers, educators, policy makers and environmental health experts from across Canada will be coming together to share their knowledge and discuss strategies for integrating education about early-life exposures to toxic substances into prenatal clinical practice," says Eric Crighton a researcher at the University of Ottawa. Crighton focuses on prenatal [environmental health](#) education practices and is the host of the PEHE Forum.

"The message in Little Things Matter is clear; the developing fetus and child are particularly vulnerable to toxic exposures, and the consequences of inadequate protection can be significant," says Erica Phipps, Executive Director for the Canadian Partnership for Children's Health and Environment (CPCHE).

"Though health care providers commonly discuss risks associated with smoking, diet and alcohol consumption with pregnant patients, they are less likely to broach the topic of exposure to lead or mercury, let alone bisphenol A (BPA), pesticides or flame-retardants. As such, we are missing important opportunities for prevention."

Lanphear hopes this video will serve as a catalyst for regulations aimed at reducing the exposure of [toxic chemicals](#) in the environment.

"Because low levels of exposure can have such far-reaching effects, industry should be required to prove that the chemicals they use are not toxic before they enter the market. With informed policies, we could have a country in which the rate of learning and behavioural problems would start to decline and more children would excel."

Background:

- The impact of toxins on the developing brain is permanent.
- Children who are more heavily exposed to toxins will not reach the same peak cognitive ability as those who have lower exposures. At the same time, studies have shown that there are no safe levels of exposure to toxic chemicals, such as lead and flame-retardants.
- Although many, or even most chemicals are harmless, the cumulative impact of exposures to three or four toxins is overwhelming.
- In Canada and the U.S, chemicals are used in consumer products and released into the environment before they are tested for toxic effects on the developing brain.

Erica Phipps, Executive Director for the Canadian Partnership for Children's Health and Environment (CPCHE), says: "We are seeing exciting leadership on these issues by medical professionals south of the border. It is time to take stock of where we are at and what more needs to be done here in Canada. The PEHE Forum this week is an important first step."

Dr. Robin Walker, Professor of Paediatrics, Schulich School of Medicine and Dentistry, Western University says,: "The video invites conversation about the potential downstream effects of early life exposures to toxicants. As a health practitioner, I see a pressing need for increased understanding on the implications that toxic exposures can have at the individual and societal level. The medical community needs to take the lead on this issue and create momentum for relevant policy change that will decrease toxic exposures, and provide an environment where our children can grow up healthy and reach their full potential."

Provided by Simon Fraser University

Citation: Video drives home impact of cumulative environmental toxic exposures on children's brain development (2014, November 20) retrieved 25 April 2024 from <https://medicalxpress.com/news/2014-11-video-home-impact-cumulative-environmental.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.